REMARKS

35 U.S.C. § 102(b)

Claims 1-5, 7-15, and 18-29 have been rejected under 35 U.S.C. § 102(b) as anticipated by Konig (US 4501865). This rejection is respectfully traversed for the following reasons.

The sole response to Applicants previously submitted argument is: "The Examiner disagrees the Applicant assert that a heterogeneous mixture is a multi-phase polymerization medium."

A heterogeneous mixture, by definition (see Websters or any dictionary of choice) is something that consists of parts that are *unlike* or *dissimilar*. Konig itself states in the provided definition of "heterogeneous phase" that the polymer is "insoluble in the reaction medium." Thus, Konig teaches that there is a solid in a liquid phase. Hence – a multi-phase blend of unlike components, i.e. heterogeneous phase. When the reference itself identifies that is has a polymerization medium comprising a mix of unlike phases, there is nothing else to call this but NOT a single phase polymerization medium. Whether there is agreement with the Applicant or not – the reference has to given full face value for what it teaches about its own invention. And herein the reference itself teaches clearly and definitely away from the recited invention of a homogenous phase polymerization medium.

Konig also teaches the reaction media includes water and aqueous systems (col 4, lines 5-6) and, in accordance with the taught invention, includes fluids that are "immiscible with the reaction mixture" (col 4, lines 12-45; claim 1). This immiscible liquid is a sacrificial liquid, selected to have a boiling point temperature lower than that of the reaction temperature, and lower than the boiling temperature of the monomer "to avoid evaporation of the monomer" (col 5, lines 31-35). This sacrificial liquid absorbs the heat of reaction and evaporates, thereby removing polymerization heat from the system. In all examples, Konig discloses that the operating temperature for the polymerization is less than 100° C – less than the boiling point of the aqueous solution into which the monomer is dissolved, thus presumably, the aqueous solution is not evaporated during polymerization.

Konig has designed a polymerization system specifically to avoid any evaporation of the monomer, catalyst, and the aqueous diluent. Thus Konig fails to teach the use of a single phase medium comprising a catalyst, a diluent comprising an HFC, and one or more monomers wherein during polymerization some of the single phase medium comprising all of

these three stated elements (the catalyst, the diluent, and some monomer) is evaporated off, as instantly recited by Applicant.

As Konig fails to teach each and every element of the recited invention, and actually teaches away from the recited invention, Konig fails to anticipate the recited invention.

Dependent claims 7-15, directed to specific equipment features of the reactor, also stand rejected under Konig. However, Konig fails to recite these features. If the anticipation rejection of these claims over Konig is maintained, it is requested that the support for such rejections be specifically identified.

35 U.S.C. § 103

Claims 6, 16-17, and 30-60 remain rejected under 35 U.S.C. § 103 as being obvious over Konig in view of Maeda et al (EP 0 713 883). This rejection is respectfully traversed for the following reasons.

Maeda is cited for the same exact reasons set forth in the first Office Action – the exact same rejection, complete with the previously noted error in the obviousness statement, has been repeated.

The sole response to a page and a half of arguments by Applicant was an underlining of part of the obviousness statement ("both references are directed to cationic polymerization processes using di-olefins"). Applicants believe that this fails to adequately address the arguments raised in the prior response and fails to provide Applicant with any substantive prosecution and discussion of this application and the art cited against it. Applicants arguments from the previous response are hereby fully incorporated by reference thereto and are considered repeated due to the failure to fully respond to them.

Nevertheless, proceeding with the extremely limited response the Office has provided, Applicants have reviewed the statement felt to be crucial in the rejection – that both references teach cationic polymerization of di-olefins. Just because both use di-olefins and the mechanism of polymerization is the same, absolutely does not mean that the catalyst, polymerization conditions of pressure and temperature can be substituted without seeing a change in the result. Changing any one of these factors can result in a completely different product, much less changing all of these factors.

Konig is looking to produce a vinyl monomer. There is absolutely no certainty of yielding the desired vinyl monomer when using a Lewis-acid catalyst under reaction temperatures of not greater than 15°C, as suggested by the rejection. Just because the

mechanism of reaction is the same for both Konig and Maeda and because both use momoners that fall within the same broad category means absolutely nothing in the uncertain world of chemical reactions.

There is absolutely no support for the position taken in the Office Actions that one skilled in the art would have substituted the conditions of Maeda into the disclosed reaction of Konig.

For the reasons set forth in the prior response and those above, the Office has failed to establish *prima facie* obviousness of the rejected claims. There is no suggestion or motivation in the art to modify or combine the references; there is no reasonable expectation of success and; as neither reference makes up for the deficiency of teaching that the polymerization medium comprising the HFC containing diluent, catalyst, and monomer is evaporated during the reaction, the combined references fail to teach or suggest all the claim limitations.

It is respectfully requested that the rejection be reconsidered and withdrawn.

Applicants believes that the claims pending in the subject patent application are allowable over the cited prior art. Thus, the Examiner is respectfully requested to allow all pending claims.

Respectfully submitted,

June 13, 2008
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